IN THE CLAIMS

Please amend claims 11, 38-43, 79-81 and 83 as follows.

1-10 (Cancelled).

11. (Currently Amended) A method for transduction of hematopoietic cells by a replication-defective recombinant retrovirus vector, comprising infecting viable hematopoietic cells in culture with a replication-defective recombinant retrovirus in the presence of substantially pure fibronectin, substantially pure fibronectin fragments, or a mixture thereof, to produce transduced hematopoietic cells, said fibronectin and said fibronectin fragments containing the ~~alternately~~ alternatively spliced CS-1 cell adhesion domain and the Heparin II binding domain of fibronectin.

12. (Previously Presented) The method of claim 11 which includes harvesting the transduced hematopoietic cells.

13. (Previously Presented) The method of claim 11 wherein the hematopoietic cells have a protein deficiency or abnormality and the recombinant retrovirus vector includes an exogenous gene encoding the protein.

14. (Previously Presented) The method of claim 11 wherein the hematopoietic cells have an enzyme deficiency or abnormality and the exogenous gene is a gene encoding the enzyme.

15. (Previously Presented) The method of claim 14 wherein the hematopoietic cells are human hematopoietic cells having an enzyme deficiency or abnormality and the exogenous gene is a human gene encoding the enzyme.

16. (Previously Presented) The method of claim 14 wherein the hematopoietic cells have an adenosine deaminase deficiency and the exogenous gene encodes adenosine deaminase.

17. (Previously Presented) The method of claim 15 wherein the human hematopoietic cells have an adenosine deaminase deficiency and the exogenous gene encodes adenosine deaminase.

18. (Previously Presented) The method of claim 15 wherein the cells are infected with the retrovirus in the presence of an immobilized fibronectin fragment containing an amino acid sequence which provides the cell-binding activity of the CS-1 domain and an amino acid sequence which provides the retrovirus binding activity of the Heparin-II domain.

19. (Previously Presented) The method of claim 18 wherein the fibronectin fragment is a recombinant fibronectin fragment.

20. (Previously Presented) The method of claim 19, wherein the recombinant fibronectin fragment is selected from the group consisting of H-296 and CH-296.

21. (Previously Presented) The method of claim 20, wherein the recombinant fibronectin fragment is CH-296.

22. (Previously Presented) The method of claim 19, wherein the recombinant fibronectin fragment contains the Heparin-II binding domain of fibronectin.

23. (Previously Presented) The method of claim 11, wherein the hematopoietic cells are characterized as adherent-negative, low density, mononuclear cells.

24-37 (Cancelled).

38. (Currently Amended) A cellular composition comprising viable hematopoietic cells transduced by retroviral-mediated gene transfer in the absence of retroviral producer cells and in the presence of an immobilized amount of a polypeptide containing fibronectin, a fibronectin fragment, or a mixture thereof, ~~a first amino acid sequence~~ which provides the binding activity of the Heparin-II binding domain of fibronectin and ~~a second~~ an amino acid sequence which provides the cell-binding activity of the CS-1 domain of fibronectin, said immobilized amount of polypeptide being effective to increase the frequency of transduction of the hematopoietic cells by the retrovirus vector; said composition also comprising said polypeptide.

39. (Currently Amended) The cellular ~~population~~ composition of claim 38 which is enriched in viable hematopoietic cells wherein said viable hematopoietic cells are stem cells.

40. (Currently Amended) The cellular ~~population~~ composition of claim 38 wherein said viable hematopoietic cells are human hematopoietic cells enriched in human hematopoietic stem cells.

41. (Currently Amended) The cellular ~~population~~ composition of claim 40 which is a substantially homogenous population of human hematopoietic cells characterized as adherent-negative, low density, mononuclear cells.

42. (Currently Amended) The cellular ~~population~~ composition of claim 41 which has been transduced by a recombinant retrovirus vector containing an exogenous gene to correct a protein deficiency or abnormality in the cells.

43. (Currently Amended) The cellular ~~population~~ composition of claim 39 wherein said hematopoietic cells are obtained from umbilical cord blood.

44-78 (Cancelled).

79. (Currently Amended) ~~In a~~ An improved method of gene transfer into mammalian cells by a replication-defective recombinant retrovirus vector, the improvement comprising conducting the gene transfer without cocultivation, with retrovirus producing cells and in the presence of substantially pure fibronectin, substantially pure fibronectin fragments, or a mixture thereof, so as to increase the frequency of the gene transfer.

80. (Currently Amended) A method for transduction of viable mammalian cells by a replication-defective recombinant retrovirus vector, comprising infecting the cells in culture with a replication-defective recombinant retrovirus in the presence of substantially pure fibronectin, substantially pure fibronectin fragments, or a mixture thereof, without cocultivation with retrovirus producing cells to produce transduced cells.

81. (Currently Amended) The method of claim 80, wherein the infecting is in the presence of a fibronectin ~~fragments~~ fragment containing the Heparin-II binding domain of fibronectin.

82. (Previously Presented) The method of claim 81, wherein said domain has an amino acid sequence represented by the formula (SEQ. ID NO. 1):

Ala Ile Pro Ala Pro Thr Asp Leu Lys Phe Thr Gln Val Thr Pro Thr Ser Leu Ser Ala Gln Trp Thr Pro Pro Asn Val Gln Leu Thr Gly Tyr Arg Val Arg Val Thr Pro Lys Glu Lys Thr Gly Pro Met Lys Glu Ile Asn Leu Ala Pro Asp Ser Ser Ser Val Val Val Ser Gly Leu Met Val Ala Thr Lys Tyr Glu Val Ser Val Tyr Ala Leu Lys Asp Thr Leu Thr Ser Arg Pro Ala Gln Gly Val Val Thr Thr Leu Glu Asn Val Ser Pro Pro Arg Arg Ala Arg Val Thr Asp Ala Thr Glu Thr Thr Ile Thr Ile Ser Trp Arg Thr Lys Thr Glu Thr Ile Thr Gly Phe Gln Val Asp Ala Val Pro Ala Asn Gly Gln Thr Pro Ile Gln Arg Thr Ile Lys Pro Asp Val Arg Ser Tyr Thr Ile Thr Gly Leu Gln Pro Gly Thr Asp Tyr Lys Ile Tyr Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser Ser Pro Val Val Ile Asp Ala Ser Thr Ala Ile Asp Ala Pro Ser Asn Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser Leu Leu Val Ser Trp Gln Pro Pro Arg Ala Arg Ile Thr Gly Tyr Ile Ile Lys Tyr Glu Lys Pro Gly Ser Pro Pro Arg Glu Val Val Pro Arg Pro Arg Pro Gly Val Thr Glu Ala Thr Ile Thr Gly Leu Glu Pro Gly Thr Glu Tyr Thr Ile Tyr Val Ile Ala Leu Lys Asn Asn Gln Lys Ser Glu Pro Leu Ile Gly Arg Lys Lys Thr.

83. (Currently Amended) The method of claim 82, wherein said fibronectin fragments comprise a recombinant fibronectin fragment selected from the group consisting of CH-296 and H-296.

84-93 (Cancelled).